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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/499,999	02/08/2000	Huan-Yu Su	01CON314P	1996

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EXAMINER
ARMSTRONG, ANGELA A

ART UNIT	PAPER NUMBER
2654	26

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/499,999	SU, HUAN-YU	
	Examiner	Art Unit	
	Angela A. Armstrong	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7,9-27 and 42-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7,9-27 and 42-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 12, 2003 has been entered.

Response to Amendment

2. In response to the Office Action mailed February 12, 2003, applicant has submitted an amendment to cancel claims 6-68 and amend claims 1, 10, 16, 22, and 53.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 53-60 rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart (US Patent No. 5,761,634) in view of well-known prior art.

4. Stewart discloses a method and apparatus for making rate selections for speech encoders.

Regarding claims 53 and 56, at col. 3, lines 14-15, Stewart discloses a rate controller, which determines and provides selected rates to the encoders, which reads on " a speech data rate determiner." Stewart further discloses at Figure 1, element 105 a plurality of speech data encoders. At col. 3, lines 17-20, Stewart discloses the system provides optimum voice quality and system capacity in that it allows specific encoders to decrease their rate, which improves capacity, as necessary while allowing other encoders to maintain their rates.

Stewart does not specifically teach the "first encoder is a fixed bit-rate encoder incapable of rate determination." However, implementation of a fixed-rate encoder so as to provide an encoding scheme of a constant or predetermined rate was well known in the art.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to implement a fixed-bit rate encoder incapable of rate determination in the encoding scheme of Stewart, so as to provide an encoding scheme of a predetermined or constant rate, as was well known in the art.

Additionally, at col. 4, lines 29-55, Stewart discloses the encoders divide received segments into frames and declares each frame as either 1/8, ¼, ½, or a full rate frame and encodes the frames accordingly, which reads on "wherein said speech data rate determinator determines a data rate for encoding each of said frames and selects one of plurality of said speech data signal encoders according to said data rate."

At col. 3, lines 66-67, Stewart also teaches that the encoding system allows for encoding of speech, video or data.

Regarding claim 54, Stewart and well-known prior art teaches everything as claimed in claim 53. Additionally, at col. 4, lines 29-55, Stewart discloses the encoders divide received

segments into frames and declares each frame as either 1/8, ¼, ½, or a full rate frame and encodes the frames accordingly, which reads on "said second encoder is a variable rate encoder, including a plurality of rates."

Regarding claim 55, Stewart and well-known prior art teaches everything as claimed in claim 53. Additionally, at col. 3, lines 17-20, Stewart discloses the system provides optimum voice quality and system capacity in that it allows specific encoders to decrease their rate, which improves capacity, as necessary while allowing other encoders to maintain their rates, which reads on "wherein said second encoder is a fixed bit-rate encoder."

Regarding claim 57, Stewart and well-known prior art teaches everything as claimed in claim 53. Additionally, at col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP), which reads on "speech data signal encoders include G.729 ITU compliant speech encoders."

Regarding claims 58 and 60, Stewart and well-known prior art teaches everything as claimed in claim 53. Additionally, at col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP), which reads on "speech data signal encoders include G.729 ITU compliant speech encoders and G.723.1 ITU compliant speech encoders."

Regarding claim 59, Stewart and well-known prior art teaches everything as claimed in claim 53. At col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP) and adaptive differential pulse code modulation (ADPCM), which reads on "encoding scheme based on G.729 and G.721."

5. Claims 1, 3-6, 9-16, 18-27 and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al (US Patent No. 5,761,634) in view of well known prior art and further in view of Otani (US Patent No. 6,400.693).

6. Stewart discloses a method and apparatus for making rate selections for speech encoders.

7. Regarding claims 1, 9, 16, and 52 at col. 3, lines 14-15, Stewart discloses a rate controller, which determines and provides selected rates to the encoders, which reads on " a speech data rate determiner." Stewart further discloses at Figure 1, element 105 a plurality of speech data encoders. At col. 3, lines 17-20, Stewart discloses the system provides optimum voice quality and system capacity in that it allows specific encoders to decrease their rate, which improves capacity, as necessary while allowing other encoders to maintain their rates, which reads on "wherein said first encoder is a fixed bit-rate encoder."

Stewart does not specifically teach the "first encoder is a fixed bit-rate encoder incapable of rate determination." However, implementation of a fixed-rate encoder so as to provide an encoding scheme of a constant or predetermined rate was well known in the art.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to implement a fixed-bit rate encoder incapable of rate determination in the encoding scheme of Stewart, so as to provide an encoding scheme of a predetermined or constant rate, as was well known in the art.

At col. 3, lines 66-67, Stewart also teaches that the encoding system allows for encoding of speech, video or data. Stewart does not specifically disclose that the encoding scheme of a

first encoder differs from an encoding scheme of a second encoder. However, implementation of a variety of encoding schemes was well known in the art.

In a similar field of endeavor, Otani discloses a communications apparatus for multimedia information which implements a plurality of encoding schemes to implement the encoding of a variety of data, such as audio and video data for use in a television telephone apparatus or video-conferencing (col. 1, lines 9-12 and col. 8, lines 14-24). Otani discloses application of encoding schemes of 64kbps PCM, 64kbps, 56kbps, or 48kbps SB-ADPCM, 32 kbps ADPCM, and LD-CELP.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the encoding system of Stewart to implement multiple encoding schemes as taught by Otani, for implementation in a television-telephone environment.

Regarding claims 3 and 18, Stewart, well known prior art, and Otani discloses everything as claimed in claim 1. Additionally, at col. 4, lines 29-55, Stewart discloses the encoders divide received segments into frames and declares each frame as either 1/8, ¼, ½, or a full rate frame and encodes the frames accordingly, which reads on "wherein said data signal includes a first frame and a second frame, and wherein said first frame is encoded using said first encoders and said second frame is encoded using said second encoders."

Regarding claim 4, Stewart, well known prior art, and Otani discloses everything as claimed in claim 1. Additionally, at col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including adaptive differential pulse code modulation (ADPCM), which reads on "said plurality of speech data signal encoders include G.727 ITU compliant speech encoders."

Regarding claims 5 and 45, Stewart, well known prior art, and Otani discloses everything as claimed in claims 1 and 16. Additionally, at col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP), which reads on "speech data signal encoders include G.729 ITU compliant speech encoders and G.723.1 ITU compliant speech encoders."

Regarding claim 42, Stewart, well known prior art, and Otani discloses everything as claimed in claim 1. At col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP) and adaptive differential pulse code modulation (ADPCM), which reads on "encoding scheme based on G.729 and G.721."

Regarding claims 50-51, Stewart, well known prior art, and Otani discloses everything as claimed in claim 1. At col. 4, lines 29-55, Stewart discloses the encoders divide received segments into frames and declares each frame as either 1/8, ¼, ½, or a full rate frame and encodes the frames accordingly, which reads on "said first encoder is a multi-rate encoder, including a plurality of rates" and "said second encoder is a variable rate encoder, including a plurality of rates."

Regarding claim 19, Stewart, well known prior art, and Otani discloses everything as claimed in claim 16. Additionally, at col. 4, lines 34-37 Stewart discloses the system divides the signal stream into 20ms frames consisting of 160 samples of the source speech waveform, which reads on "data signal is a single frame of an active speech signal."

Regarding claim 20, Stewart, well known prior art, and Otani discloses everything as claimed in claim 16. Additionally, at col. 4, line 64 continuing to col. 5, line 5, Stewart discloses

the system can implement a variety of encoding schemes including code excited linear prediction (CELP), which reads on "speech data signal encoders include G.729 ITU compliant speech encoders."

Regarding claim 21, Stewart, well known prior art, and Otani discloses everything as claimed in claim 16. At col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP) and adaptive differential pulse code modulation (ADPCM), which reads on "encoding scheme based on G.729 and G.726."

Regarding claim 10, at col. 3, lines 14-15, Stewart, well known prior art, and Otani discloses a rate controller, which determines and provides selected rates to the encoders, which reads on " a speech data rate determiner." Stewart further discloses at Figure 1, element 105 a plurality of speech data encoders. Stewart discloses a controlling DSP for passing rate selections to encoders at Figure 6, element 603, which reads on "a network controller capable of selecting at least two of said plurality of speech encoders, including said first encoder and said second encoder." At col. 3, lines 17-20, Stewart discloses the system provides optimum voice quality and system capacity in that it allows specific encoders to decrease their rate, which improves capacity, as necessary while allowing other encoders to maintain their rates.

Stewart does not specifically teach the "first encoder is a fixed bit-rate encoder incapable of rate determination." However, implementation of a fixed-rate encoder so as to provide an encoding scheme of a constant or predetermined rate was well known in the art.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to implement a fixed-bit rate encoder incapable of rate determination in the encoding scheme of

Stewart, so as to provide an encoding scheme of a predetermined or constant rate, as was well known in the art.

At col. 3, lines 66-67, Stewart also teaches that the encoding system allows for encoding of speech, video or data. Stewart does not specifically disclose that the encoding scheme of a first encoder differs from an encoding scheme of a second encoder. However, implementation of a variety of encoding schemes was well known in the art.

In a similar field of endeavor, Otani discloses a communications apparatus for multimedia information which implements a plurality of encoding schemes to implement the encoding of a variety of data, such as audio and video data for use in a television telephone apparatus or video-conferencing (col. 1, lines 9-12 and col. 8, lines 14-24). Otani discloses application of encoding schemes of 64kbps PCM, 64kbps, 56kbps, or 48kbps SB-ADPCM, 32 kbps ADPCM, and LD-CELP.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the encoding system of Stewart to implement multiple encoding schemes as taught by Otani, for implementation in a television-telephone environment.

Regarding claim 11, Stewart, well known prior art, and Otani discloses everything as claimed in claim 10. Additionally, at col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP), which reads on "speech data signal encoders include G.729 ITU compliant speech encoders."

Regarding claim 12, Stewart, well known prior art, and Otani discloses everything as claimed in claim 10. Additionally, at col. 4, line 64 continuing to col. 5, line 5, Stewart discloses

the system can implement a variety of encoding schemes including code excited linear prediction (CELP), which reads on "speech data signal encoders include G.729 ITU compliant speech encoders and G.723.1 ITU compliant speech encoders."

Regarding claims 13-14, Stewart, well known prior art, and Otani discloses everything as claimed in claim 10. Stewart discloses a controlling DSP for passing rate selections to encoders at Figure 6, element 603, which reads on "network controller is capable of selecting two or more speech data signal encoder groups."

Regarding claim 15, Stewart, well known prior art, and Otani discloses everything as claimed in claim 13. At col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP) and adaptive differential pulse code modulation (ADPCM), which reads on "encoding scheme based on G.729 and G.721."

Regarding claims 43-44, Stewart, well known prior art, and Otani disclose everything as claimed in claim 10. Additionally, at col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP), which reads on "speech data signal encoders include G.729 ITU compliant speech encoders and G.723.1 ITU compliant speech encoders."

Regarding claim 22, at col. 3, lines 14-15, Stewart discloses a controlling DSP for passing rate selections to encoders at Figure 6, element 603, which reads on "choosing according to a predetermined factor, one group from a plurality of groups of speech encoders." Stewart discloses a rate controller, which determines and provides selected rates to the encoders, which reads on " determining a data rate on one of said speech signal frames." Stewart further

discloses at Figure 1, element 105 a plurality of speech data encoders. Additionally, at col. 4, lines 29-55, Stewart discloses the encoders divide received segments into frames and declares each frame as either 1/8, ¼, ½, or a full rate frame and encodes the frames accordingly, which reads on "selecting, according to said data rate, one of said plurality of speech encoders in said chosen group and encoding said one of speech signal frames using said selected speech encoder." At col. 3, lines 17-20, Stewart discloses the system provides optimum voice quality and system capacity in that it allows specific encoders to decrease their rate, which improves capacity, as necessary while allowing other encoders to maintain their rates.

Stewart does not specifically teach the "first encoder is a fixed bit-rate encoder incapable of rate determination." However, implementation of a fixed-rate encoder so as to provide an encoding scheme of a constant or predetermined rate was well known in the art.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to implement a fixed-bit rate encoder incapable of rate determination in the encoding scheme of Stewart, so as to provide an encoding scheme of a predetermined or constant rate, as was well known in the art.

At col. 3, lines 66-67, Stewart also teaches that the encoding system allows for encoding of speech, video or data. Stewart does not specifically disclose that the encoding scheme of a first encoder differs from an encoding scheme of a second encoder. However, implementation of a variety of encoding schemes was well known in the art.

In a similar field of endeavor, Otani discloses a communications apparatus for multimedia information which implements a plurality of encoding schemes to implement the encoding of a variety of data, such as audio and video data for use in a television telephone

apparatus or video-conferencing (col. 1, lines 9-12 and col. 8, lines 14-24). Otani discloses application of encoding schemes of 64kbps PCM, 64kbps, 56kbps, or 48kbps SB-ADPCM, 32 kbps ADPCM, and LD-CELP.

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the encoding system of Stewart to implement multiple encoding schemes as taught by Otani, for implementation in a television-telephone environment.

Regarding claim 23, Stewart, well known prior art, and Otani discloses everything as claimed in claim 22. Additionally, at col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP), which reads on "speech data signal encoders include G.729 ITU compliant speech encoders."

Regarding claim 24, Stewart, well known prior art, and Otani discloses everything as claimed in claim 22. Additionally, at col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system can implement a variety of encoding schemes including code excited linear prediction (CELP), which reads on "speech data signal encoders include G.729 ITU compliant speech encoders and G.723.1 ITU compliant speech encoders."

Regarding claims 25-26, Stewart, well known prior art, and Otani discloses everything as claimed in claim 22. Stewart discloses a controlling DSP for passing rate selections to encoders at Figure 6, element 603, which reads on "network controller is capable of selecting two or more speech data signal encoder groups."

Regarding claim 27, Stewart, well known prior art, and Otani discloses everything as claimed in claim 25. At col. 4, line 64 continuing to col. 5, line 5, Stewart discloses the system

can implement a variety of encoding schemes including code excited linear prediction (CELP) and adaptive differential pulse code modulation (ADPCM), which reads on "encoding scheme based on G.729 and G.721."

8. Claims 2, 7, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart in view of well known prior art and Otani, and further in view of Taumi et al (US Patent No. 6,006,178).

9. Regarding claims 2 and 17, Stewart, well known prior art, and Otani teach everything as claimed in claims 1 and 16. However, neither Stewart nor Otani specifically teach that the frames are 10ms in length. However, implementation of speech signal processing with speech frames of 10ms in length was well known in the art.

In a similar field of endeavor, Taumi discloses a speech encoder for encoding a speech or voice signal with a high quality at a short frame period or length of 5ms to 10ms (col. 1, lines 8-12).

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Stewart and Otani and implement short frame periods of 5ms to 10ms, as taught by Taumi, for the purpose of achieving high quality encoding as suggested by Taumi.

Regarding claim 7, Stewart, well known prior art, and Otani teach everything as claimed in claim 1. However, neither Stewart nor Otani specifically teach that the frames are 5ms in length. However, implementation of speech signal processing with speech frames of 5ms in length was well known in the art.

In a similar field of endeavor, Taumi discloses a speech encoder for encoding a speech or voice signal with a high quality at a short frame period or length of 5ms to 10ms (col. 1, lines 8-12).

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Stewart and Otani and implement short frame periods of 5ms to 10ms, as taught by Taumi, for the purpose of achieving high quality encoding as suggested by Taumi.

10. Claims 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart in view of well known prior art and Otani, and further in view of DeJaco (US Patent No. 5,911,128).

11. Regarding claims 46-49, Stewart, well known prior art, and Otani disclose everything as claimed in claims 1, 10, 16, and 22. Stewart and Otani do not specifically disclose that the speech data rate determinator determines the data rate based on a speech classification of a frame. However, selecting a data rate for speech encoding based on speech classification was well known in the art.

In a similar field of endeavor, DeJaco discloses a method and apparatus for performing speech frame encoding mode selection in a variable rate encoding system. Specifically, at col. 6, lines 50-63, DeJaco describes implementation of full, half or quarter rates based on voiced or unvoiced classification of the speech signal. DeJaco teaches that encoding mode selection is advantageous because it provides for more rate efficient coding (Abstract).

Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the system of Stewart and Otani to implement encoding mode selection based on speech classification, as taught by DeJaco, for the purpose of providing rate efficient coding.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela A. Armstrong whose telephone number is 703-308-6258. The examiner can normally be reached on Monday-Thursday 7:30-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Angela A. Armstrong
Examiner
Art Unit 2654

AAA
August 24, 2003

Richemond Dorvil
Primary Examiner